

XXVII.—Note on a Freshwater Species of Ceratium from the Lake of Nynce (Naini) Tal in Kumaon. By H. J. CARTER, F.R.S. &c.

SEVERAL species of horned Peridinea (viz. of *Ceratium*) from the Baltic Sea have been described by Ehrenberg and others, while those called by the former *C. tripos* and *C. furca* have been seen by MM. Pringsheim and Werneck, respectively, in fresh water also (Clap. et Lachm. 'Études sur les Infusoires' &c. vol. i. pp. 399 and 400). Perty (Zur Kenntniss &c. p. 161, pl. 7. fig. 13) describes one, under the name of *C. longicorne*, from the Swiss lakes, where they are found; and, lastly, we have them from the lakes of the Himalaya and Lower Bengal.

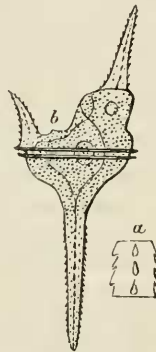
Thus my friend Dr. Forbes Watson, of the India Museum, has submitted to me for report a glass slide containing several mounted in gum from the lake of Nynce Tal.

Of these, Mr. Stewart Clark, Inspector-General of Prisons, N.W.P., who forwards them, states that they are "perfectly visible to the naked eye, chiefly on the surface, 10-15 feet down, very few below 20 feet, and probably none at the very bottom of the lake, which is 95 feet deep.

"They are found in all the lakes of Kumaon at an elevation of from 4000 to 6500 feet above the level of the sea.

"The ordinary beautiful blue colour of the lake at Nynce Tal was at their capture, and had been for some months previously, changed to a rusty brown, by the presence of myriads of this kind of Infusorium."

The chief interest in the species is that, although it is closely allied to *C. furca*, Ehr., yet it must be regarded as a variety of this form, inasmuch as the posterior horn in the figures of the latter given by Ehrenberg ('Infusionsthier.') and Claparède ('Études'), respectively, is represented as smooth, while in those forwarded from the lake of Nynce Tal (see figure) all three of the horns are equally though minutely serrated by



*Ceratium kumaonense*, dorsal view, magnified. (Scale 1-24th to 1-6000th of an inch.) *a*, portion of horn more magnified, to show the disposition of the tubercles; *b*, point from which the fourth horn might be developed (?).

four or more longitudinal lines of tubercles obliquely projecting outwards in the direction of the horn.

There is another point of interest attaching to this Infusorium, viz. that just after I had shown that the occasionally blood-red colour of the sea round Bombay and the brown colour of some of the freshwater pools of the island were respectively due to the presence of myriads of Peridinea (Ann. & Mag. Nat. Hist. vol. i. p. 258, 1858), Major Stuart-Wortley, then (April 1859) at Calcutta, kindly sent me drawings of a *Ceratium* which he had found in the freshwater pools about that city.

These, however, had *four* horns, and so far resembled Perty's *C. longicorne*; but being hastily sketched, the microscopic features were not given, and therefore the serrated appearance which characterizes the species of Nynee Tal is absent. Still it is not improbable that this Infusorium (since they are subject to much variety) may occasionally have presented itself under the *four*-horned condition; for it is provided with the point (*b*), which, if somewhat more developed into a horn, would exactly represent one of Major Stuart-Wortley's sketches. At all events it is not likely that two distinct species of such a *Ceratium* inhabit the fresh waters of India.

I am unable to go further into the description of the specimens from the lake of Nynee Tal, on account of their dried state; nor is it probable that in the fresh one they differed from the same kind of *Ceratia* in any other way than that mentioned.

Perhaps, for the sake of distinction and future reference, we might call this species *Ceratium kumaonense*.

### XXVIII.—On *Insects inhabiting Salt Water.*

By A. S. PACKARD, Jun., M.D.\*

IN March 1869 the writer published an article on this subject in the 'Proceedings of the Essex Institute, Salem,' vol. vi. p. 41. Since then I have received an interesting collection of insects from Clear Lake, Lake Co., California, made by Prof. John Torrey in 1865, and which he kindly placed in my hands for examination. Prof. A. E. Verrill has also allowed me to examine several puparia of *Ephydra* from Great Salt Lake, and during the past summer has dredged, at the great depth of 20 fathoms, at Eastport, Maine, a living *Chironomus*-larva, undistinguishable from *C. oceanicus*, Pack., found by

\* From 'Silliman's American Journal,' February 1871.